NABARD’s initiatives in creating Silvo-pastoral Systems in it’s Watershed and Tribal development Projects for Social, Environmental and Economic benefits

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WHAT IS NABARD?

NABARD (National Bank for Agriculture and Rural Development) is a developmental bank owned by GOI. Its mandate is to facilitate credit flow for promotion and development of Agriculture, small scale industries, cottage and village industries, handicrafts and other rural crafts. It also has the mandate to support all other allied economic activities in rural areas, promote integrated and sustainable rural development and secure rural prosperity.
India’s Land and Population

1. India has 328 million ha land of which about 60% are Agricultural Land. Area under cultivation-182 M ha (2011)

Present Population is 1250 Million of which around 70% are Agricultural farmers

2. Indian Agriculture is dependent on Annual Monsoon

3. Only 40% of Agric. lands are irrigated, rests are rainfed

5. India’s Livestock population is highest in the world, 512 million. Of late, it has declined by 3.33%.

6. Milk yield is lowest and they mostly sustain on grazing resources

6. To feed such a high population is an enormous task

7. Hence NABARD introduced Sylvopastoral systems in its various Projects/Programmes viz. Watershed and Tribal Development Programme
India-Lands of the monsoon

1. Every year without fail, Monsoon rains come and stay roughly for 4 months (June-Sep)

2. This natural phenomenon occurs because due to extreme summer heat, water vapor goes up and falls as rain

3. Monsoon breaks first in A &N islands and then proceeds to Kerala state in the first week of June.

4. Later it moves upwards and cover all Indian states

5. It withdraws by last week of September

5. The highest monsoon rains occur in Mausen Ram in Meghalaya state (10,000 mm) and lowest, less than 100 mm in Western Rajasthan desert districts.

6. Every year some parts of India will receive heavy rains causing flood and some parts will face drought
Watershed Development Programme and Silvopasture

- Initiated in 1992 to develop micro watersheds for achieving sustainable production systems with emphasis on soil and water conservation and rejuvenation of natural resources including Silvo-pasture development.

  - **Slogan- “Catch Rain Where it Falls”**

- Implemented through participatory approach- labour contribution called ‘shramdan’ ; Emphasis on self-help, environmental protection and poverty alleviation

- Village Communities in close collaboration with committed NGOs and NABARD involved in designing, planning, implementation and monitoring the watershed development programmes.
A topographic unit drained at a common point by a system of streams.
Watershed development

Major features

- ‘Ridge to valley’ approach
- ‘Peoples’ commitment that decides selection of a watershed- ‘self selection’ process by qualifying labour contribution
- Community discipline (self imposed):
  - Ban on tree felling
  - Ban on free grazing
  - Ban on water intensive crops cultivation like Banana, Sugarcane
  - Own contribution of labour
SELECTION OF MICRO-WS FOR CAPACITY BUILDING:
LEARNING BY DOING

- Planning is done with farmer couple.
- Brings together the best in traditional and modern technology.
- It is site specific and farmer friendly.
Awareness Creation in the community
The Beginning... Exposure visit

**AWARENESS PHASE:**
- Exposure Visit to developed watershed
- Audio Visual shows
- Gram Sabha (Village Assembly) and discussions

**SELF SELECTION:**
- 4 Days of voluntary labour in watershed activity
- Partial contribution (50%) towards exposure visit
- Nomination of Village Watershed Committee (VWC) in the Gram Sabha.
The Community at work
Village Watershed Committee
Planning, Execution & Monitoring
Ridge To Valley Conservation

Area Treatments

Continuous Contour Trenches, Pasture and Afforestation
Ridge To Valley Conservation

Stone Bunds

Vegetative Bunds, Fodder plantation
Various Treatments

Drainage Line Treatments
Impact of Watershed Programme

Plantation on Trenches

Ist Year Forestry

Fodder Cultivation
Increased Water Availability

Rainfall Water-Table Relationship

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<th>Watertable Below GL in m</th>
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Forestry plantation Jatropha & Bamboo
On the border, intercropping with pasture
**Impact of Watershed Development** -

- Rise in ground water level
- Drinking water scarcity in villages has been overcome
- Local employment generation improved, reducing off season migration

**Increase in agricultural and pasture productivity** -

- Dairy activity received a fillip
- Demand for Bank credit gone up
- Women empowerment and reduction in drudgery; large number of women SHGs formed and credit linked
- Secondary impact – improved housing, health and education (schools)
- OVERALL QUALITY OF LIFE IS IMPROVED

So far 4.398 million acres land were developed in 18 states directly benefitting 1.8 million families.

*Watershed Development Fund:* created in NABARD to create replicable watershed development models with participatory approach.
Reasons for success?

• Participatory Approach
• Only willing villages, ready to contribute labour were selected
• Continuous and timely fund flow to the VWC by NABARD
• Transparency and Public auditing
• Continuous interaction with VWC by NGO and NABARD including rigorous M & E
• Areas of concern-Once watershed is developed, NGOs & NABARD withdraw from the site. How VWC will cope this might be a problem
Sylvopasture development in TDF Programme

1. Launched in 2004, this programme is exclusively for tribal development.

2. India’s tribal population is about 100 million.

3. They are mostly poor and illiterate.

4. They practice primitive slash and burn Agriculture and AH.

5. To increase their livelihood security, NABARD initiated TDF programme.
The main objective of the programme is sustainable development of the poorest of the Indian Tribal families through a combination of interventions.
Various Interventions

1. To raise Silvo-Horti-Pastoral plantations by combining fruit trees, forest trees and grasses in 1 acre land of a tribal family.

2. Entire cost is borne by NABARD for 5 years and then handed over to the tribal farmers

3. The fruit trees are planted in the middle, forest trees on the border and perennial grasses viz. Lablab, Clitoria etc. in between the tree rows

4. The major fruit trees are Mango (Mangifera indica) and Cashewnut (Anacardium occidentale)

5. The major forest trees are Eucalypts (Eucalyptus sp., Casuarina equisetifolia, Teak (Tectona grandis) Sissoo (Dalbergia sissoo) etc.
BENEFITS-ECONOMIC, SOCIAL AND ENVIRONMENTAL

1. Forest trees act as fencing, supply firewood, fodder and small timber

2. Fruit trees contribute to health improvement by own consumption and improve livelihood security by sale of fruits in the market

3. Grasses are used to feed their Livestock

4. When fruits are harvested completely, the land is used for controlled grazing

5. Women farmers consider the plantation as their earning sons

6. Poor farmers were able to avail of bank credit

7. Trees mitigate climate change

8. So far it covered more than 0.455 million tribal families in 0.363 million acres in 28 Indian states
Two year old Mango plantation with pasture
Intercropping - Vegetables and fodder
Developed Watershed
Ridge to Valley Approach - Sylvopastoral

Continuous Contour Trenches
Thanks for kind attention